

2016 GLOBAL DEVELOPER REPORT

How Developers Work



GitLab

INTRODUCTION In an increasingly dispersed and digital world, software developers have more choice than ever. Software development practices are evolving and time to market has quickly become one of today's greatest competitive advantages. As the software industry landscape shifts, more developers are choosing to leave outdated tools and technologies behind, opting for a more iterative and open approach, and are gaining the power to make these decisions.

98%

of developers use open source tools at work



More developers are gaining the power to choose their tools at work

92%

of developers prefer Git repositories for everyday work

While process-driven development techniques have been successful in the past, developers are searching for a more natural evolution of software development that fosters collaboration and information sharing across the lifecycle of a project. Our findings reveal that open source tools, such as Git, are now the most preferred development tools because they easily allow for iterative and conversational workflows. We hope this report helps development teams around the world better understand how to work better together.

KEY TAKEAWAYS

- 1 Developers are tired of outdated systems and crave modern tools.
- 2 Open source tools are the most preferred.
- 3 Git is ranked the most important development tool.
- 4 The age of process-driven methodologies is ending.
- 5 Collaboration is critical to developer workflows.
- 6 Continuous integration is integral to everyday work.
- 7 Security remains a major concern—innersourcing helps.
- 8 Learning curve is the biggest challenge when it comes to adopting Git.
- 9 Pressure to meet a deadline is the top reason code is released before it's ready.
- 10 Unclear direction and unrealistic deadlines are the biggest obstacles to getting work done.

WHAT DEVS WANT: NEW TOOLS

Developers are choosing their own tools and they're choosing to upgrade—whether or not management approves.

DEVELOPERS ARE TIRED OF OUTDATED SYSTEMS AND CRAVE MODERN TOOLS.



81%

say it's critical for organizations to use the latest development tools

91%

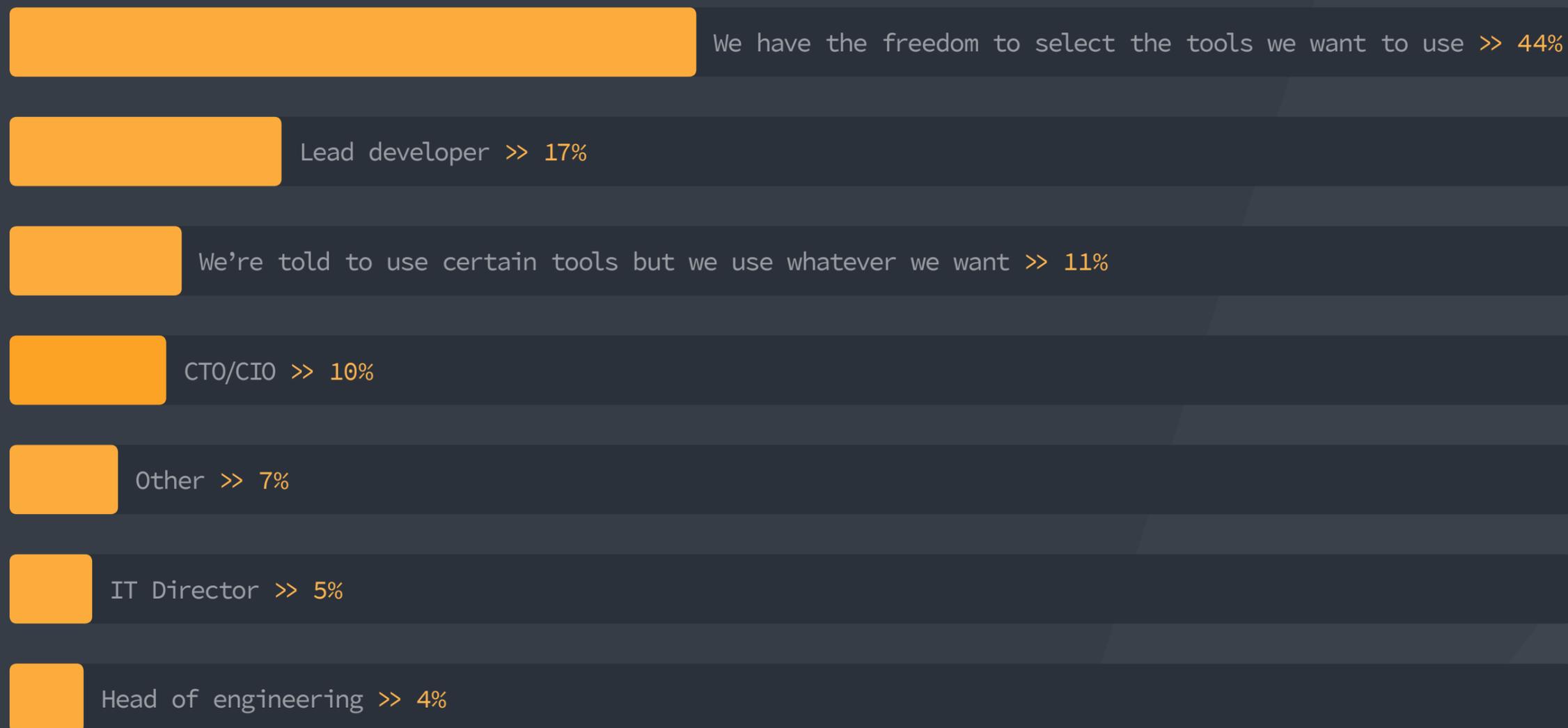
of developers prefer to use the same dev tools for work and personal projects

36%

of developers would reject a job if the employer does not use the latest development tools

MORE DEVELOPERS ARE CHOOSING THEIR OWN TOOLS AT WORK.

When it comes to choosing software development tools in the workplace, devs reign supreme. Senior leadership is selecting tools for their teams less than 20% of the time, and some developers even admit to using their own tools despite what their managers say.

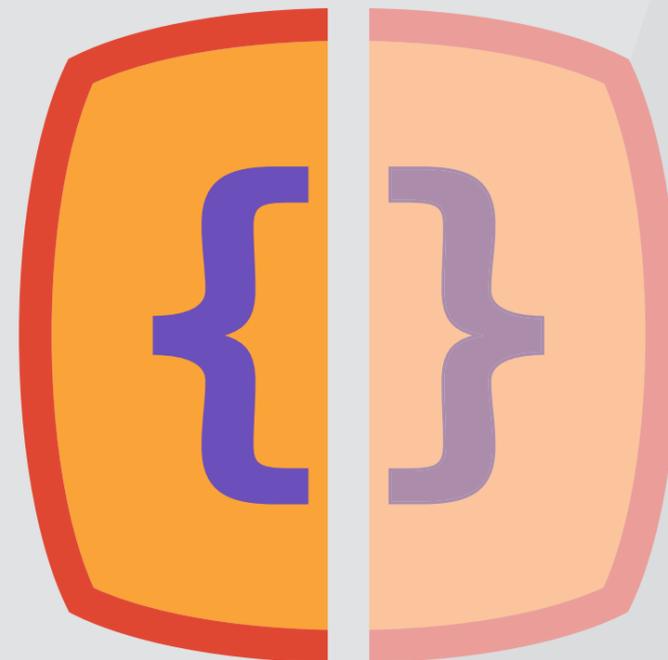


OPEN SOURCE TOOLS ARE THE MOST PREFERRED.

Modern developers prefer open source for work and for personal projects. 98% of developers say they use open source tools, and 75% say **at least half** of their tools are open source.

75%

say at least half of their tools
are open source



GIT IS RANKED THE MOST IMPORTANT DEVELOPMENT TOOL.

When looking at the tools and techniques that are most important to developers, 92% say distributed version control systems (Git repositories) are very or extremely important for their everyday work.

	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Distributed version control system (Git repository)	0.3%	2%	5%	21%	71%
Containers	20%	18%	29%	23%	10%
Application Performance Management	7%	16%	35%	30%	12%
Application platform (e.g., Google App Engine, Heroku)	33%	25%	21%	12%	9%
API management tools	15%	21%	30%	25%	8%
Chat/collaboration tools (Slack, Hipchat, etc.)	8%	12%	17%	33%	30%
Continuous Integration	3%	6%	14%	40%	37%
Continuous Delivery	8%	15%	22%	31%	24%
Virtualization	8%	16%	24%	32%	19%
Agile development	7%	9%	24%	37%	22%
Innersourcing	20%	16%	37%	17%	9%
N/A	60%	6%	27%	2%	4%

INCREASED COLLABORATION
WITH TEAMMATES IS LARGELY
CONSIDERED THE GREATEST
BENEFIT OF GIT.

79%

of developers love git repositories for increased collaboration with teammates

59%

say using a Git repository allows them to be just as efficient working remotely as being in an office setting

WHAT DEVS NEED: BETTER WORKFLOW

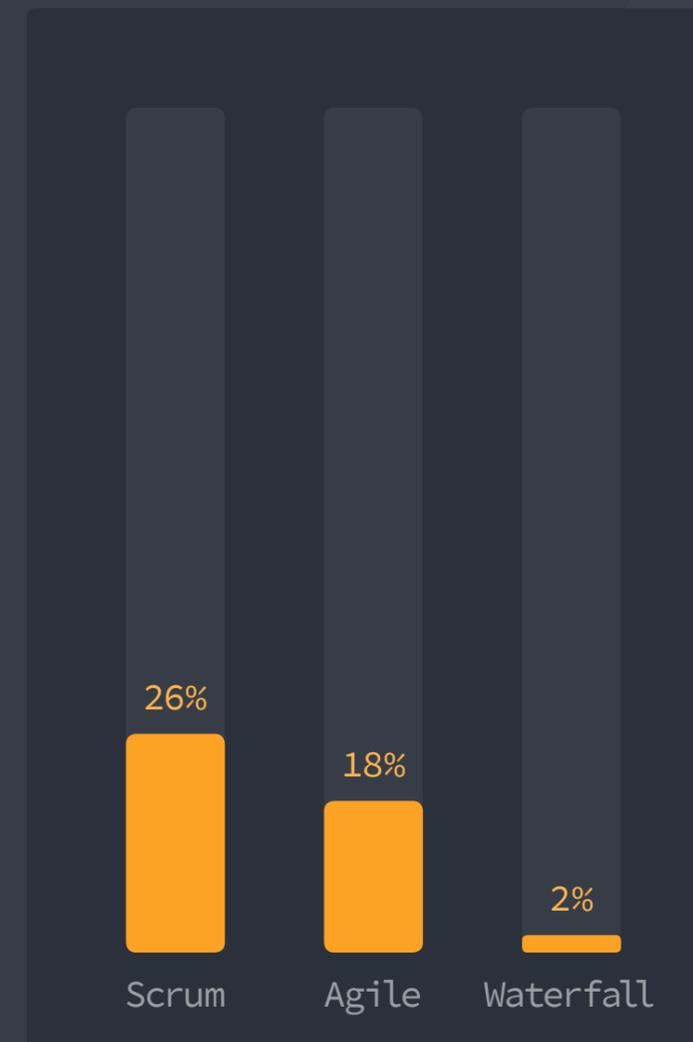
Developers indicate the demise of Waterfall, Scrum, and Agile in support of more collaborative techniques.

THE AGE OF PROCESS-DRIVEN METHODOLOGIES IS ENDING.

The way developers work is shifting and now less than half of modern developers are using the once-popular Waterfall, Scrum, or Agile software development methods. An emphasis on the need for collaboration and automated integration exposes developers' desire for more natural and conversational work styles.

33%

prefer a **combined methodology** for development



COLLABORATION IS CRITICAL TO DEVELOPER WORKFLOWS.

Thanks to great advancements in technology, communication styles have changed. Old techniques born in a pre-Internet of Things (IoT) era require too much time for meetings and planning, and aren't suitable for distributed teams. As the number of developers who prefer to be contacted via email or IM instead of in-person (66%) increases, so too does the need for instantaneous and integrated chat-tools.

63%

of developers say that chat/collaboration tools (Slack, Hipchat, etc.) are very or extremely important to their everyday work.



CONTINUOUS INTEGRATION IS INTEGRAL TO EVERYDAY WORK.

With teams racing to ship the latest feature or bug fix, they can't afford the missteps of deploying untested code and having to revert their changes. More than half of developers use continuous integration more than 75% of the time.

77%

of developers say continuous integration (CI) is very or extremely important to their everyday work. █



THE FUTURE OF SOFTWARE DEVELOPMENT:

Teams that can iterate the fastest will dominate the market. But first, managers have some critical challenges to overcome.

SECURITY REMAINS A MAJOR CONCERN—INNERSOURCING HELPS.

Security continues to be a top concern for modern developers. The vast majority (86%) say security is important or extremely important to them when developing code. While there are security concerns associated with using Git, innersourcing is said to help spot security challenges.

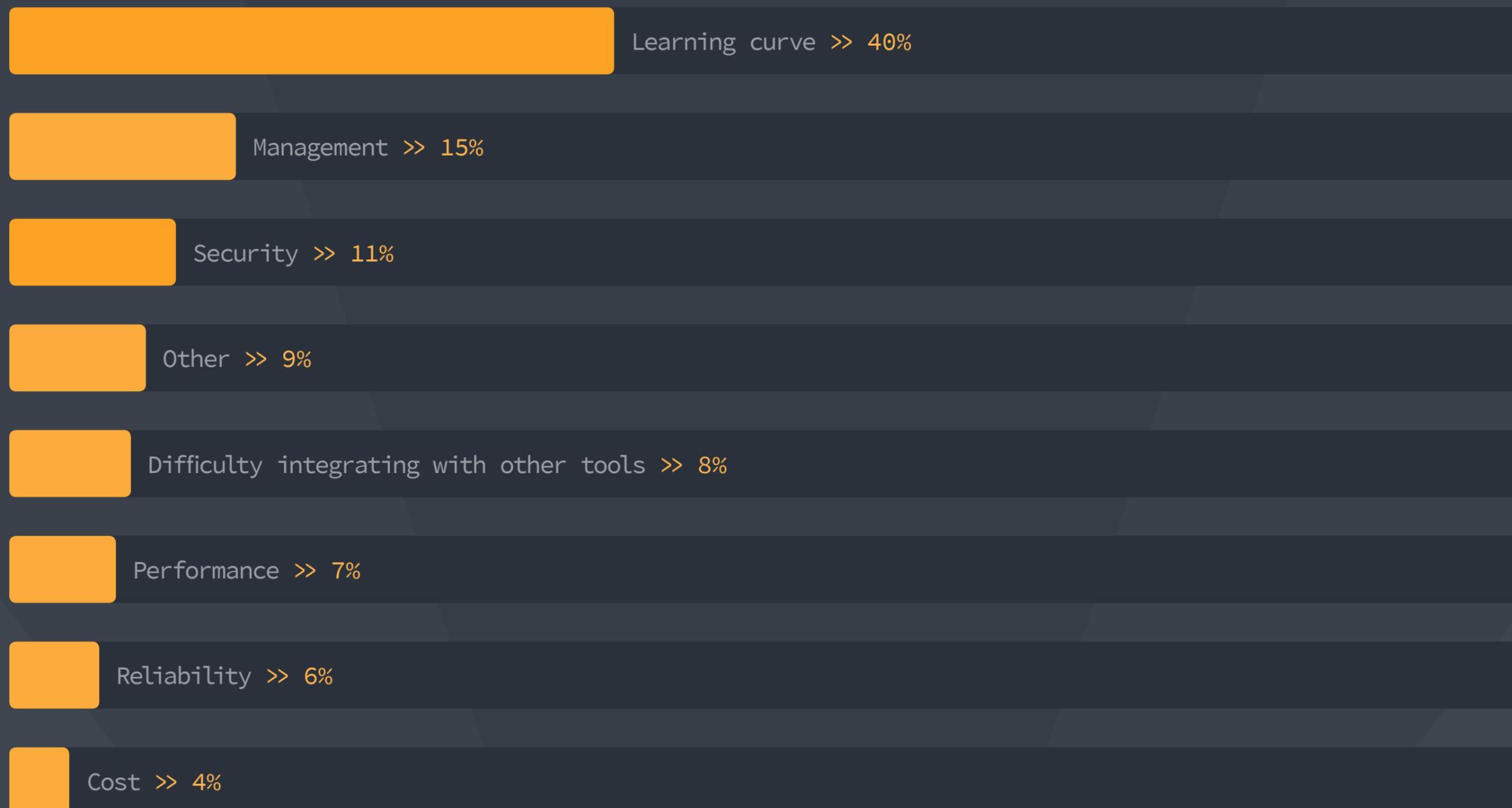


39%

of developers identified innersourcing as a method for uncovering security issues

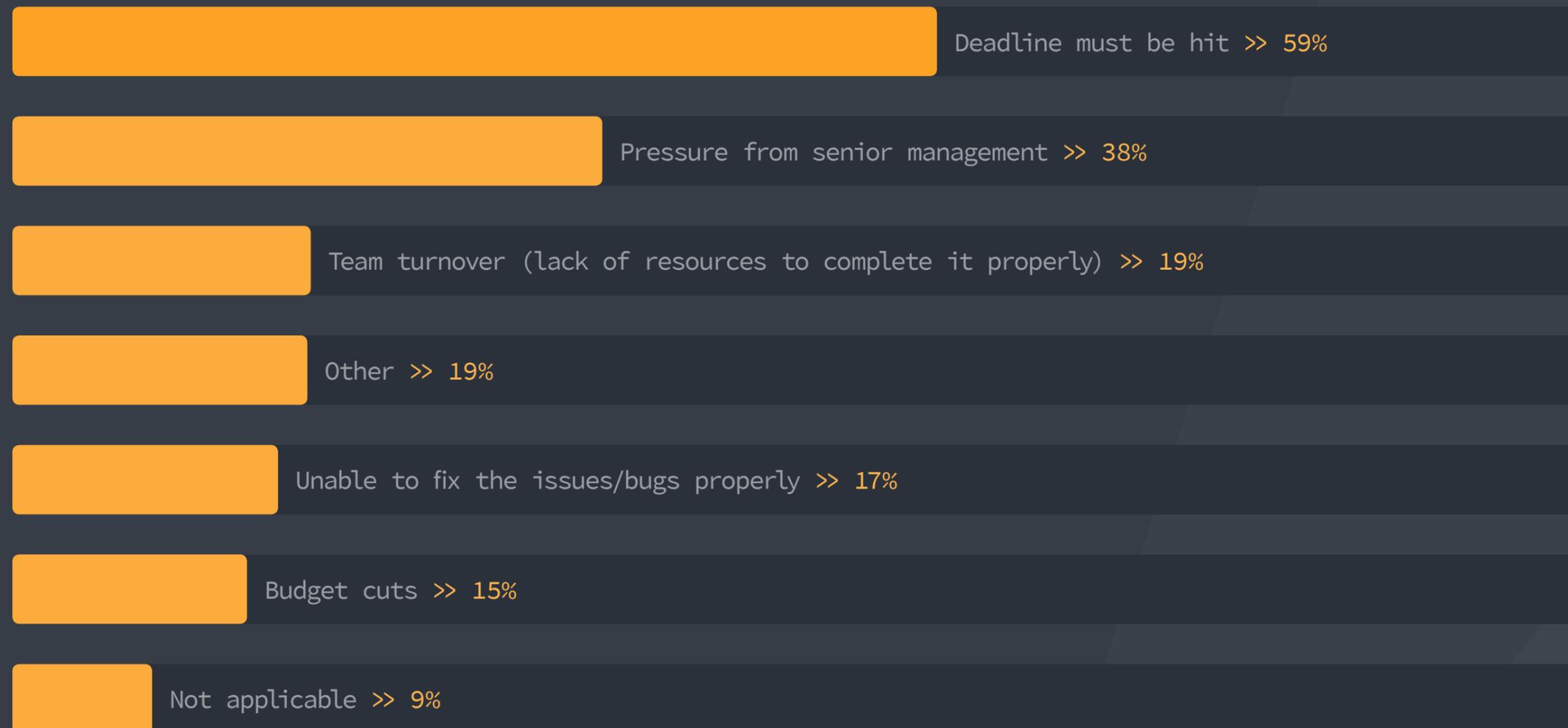
LEARNING CURVE IS THE BIGGEST CHALLENGE TO ADOPTING GIT.

Developers struggle with the learning curve of Git. However, once adopted, 66% say Git improves their team's workflow and 68% say it helps their team to be more productive. Managers can improve productivity by helping their team get over the initial learning curve.



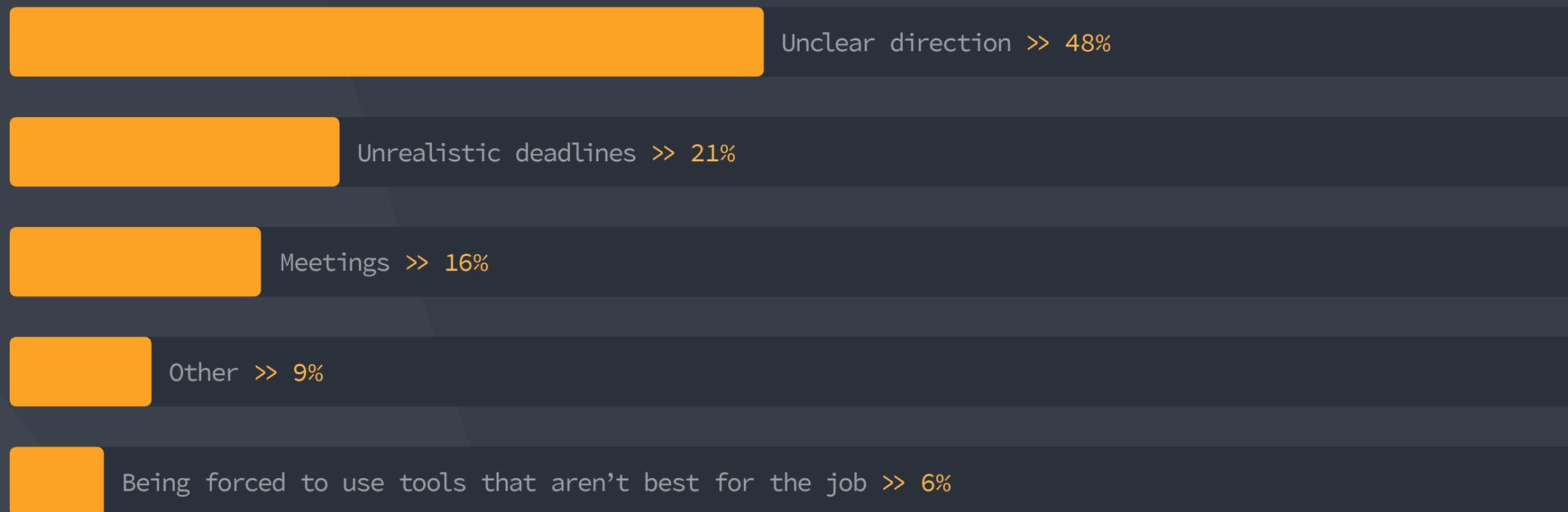
PRESSURE TO MEET A DEADLINE IS THE TOP REASON CODE IS RELEASED BEFORE IT'S READY.

Development teams are feeling the pressure to ship code faster. However, most teams don't have the tools and workflows they need to support velocity and set realistic deadlines. 81% of developers admit to releasing code before it's ready.



UNCLEAR DIRECTION AND UNREALISTIC DEADLINES ARE THE BIGGEST OBSTACLES TO GETTING WORK DONE.

Unclear direction and unrealistic deadlines from senior management are hindering developers' ability to get work done. By adopting a more iterative and collaborative approach, managers can get involved in the development process earlier, helping their teams to stay focused on the right work.





METHODOLOGY

GitLab surveyed 362 startup and enterprise CTOs, developers and DevOps professionals globally who use their platform from July 6 through July 27 via SurveyMonkey.

ABOUT GITLAB

GitLab, Inc. is the open core code collaboration platform. Downloaded over one million times, GitLab includes Git repository management, code review, issue tracking, wikis and GitLab CI, a continuous integration and deployment tool. GitLab provides companies from startups to Fortune 500 enterprises with a faster and more effective development environment. More than 100,000 organizations all over the globe currently use GitLab on premises including NASA, CERN, Alibaba, SpaceX, O'Reilly, IBM and Expedia.

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